

NOTE ON NILSSONIA MUCRONATUM (DE VIS)

FROM THE CRETACEOUS OF WESTERN QUEENSLAND.

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(Plate XXIV.)

THE present note is the result of an examination of the specimen described by the late Mr. De Vis as *Pterophyllum mucronatum*, sp. nov., in the Annals of the Queensland Museum.¹

The description and figures of De Vis do not correspond with one another and I was permitted, through the courtesy of the Director of the Museum, to examine the original specimen (No. F15/967) and to undertake its re-description.

DESCRIPTION OF THE SPECIMEN.

The specimen is a single incomplete pinnate frond; it has a length (incomplete) of 12.5 cm. and is 5.8 cm. wide at its lower end and 4.8 cm. at the upper end.

The pinnae are alternate, fairly uniform in shape and size, and are close together; they are from 2.6 cm. to 3 cm. long and 6 to 7 mm. wide; they are inserted on the upper surface of the rachis which has a width of from 1.5 to 2 mm. The pinnae narrow very slightly near their junction with the rachis; the upper margins of the pinnae are straight and make a wide angle (about 80°) with the rachis; the lower margins are at first parallel with the upper, but they curve upwards rather suddenly at a distance of about 2.5 cm. from the rachis, forming truncated pointed tips to the pinnae.

The venation is not well defined, but as far as can be seen there are 10 to 12 veins per pinna and they appear to be very slightly divergent. (*See* Plate, figs. 3 *a* and *b*.)

OBSERVATIONS.

The specimen shows the frond viewed from the lower surface, but over the greater part the actual material of the pinnae has been removed, leaving the impression of the upper surface. At a few places the material replacing the pinnae is preserved and it is on these that the venation can best be observed.

The rachis projects markedly above the level of the remainder of the frond and so it hides, for the most part, the manner of attachment of the pinnae to the rachis. Fortunately in one or two places the rachis is broken away and the pinnae are seen to have continued almost to the middle of the rachis before joining it. (*See* Plate, fig. 2.) This method of attachment at once shows that the specimen was incorrectly placed in the genus *Pterophyllum*, where the attachment is lateral.

¹ Ann. Q'land Mus. No. 10, 1911, p. 1, pl. ii.

The general appearance of the frond, the method of attachment of the pinnae and their general shape, particularly the truncate tips, are characteristic of *Nilssonia*. In the slight narrowing of the pinnae near the base the specimen diverges from the typical *Nilssonia*. An apparent slight divergence of the veins is mentioned in the description. The venation only shows on portions of a few pinnae and it is quite possible that the slight apparent divergence is accidental.

Neither of these two differences from the typical *Nilssonia* is sufficiently marked to warrant a separation without further material.

As far as can be ascertained the only species of *Nilssonia* which this one approaches is *N. schauburgensis* (Dunker)² which occurs in the Wealden of North Germany and England. There is a general resemblance between the two species, but *N. mucronatum* is larger than *N. schauburgensis*, and this in addition to the points noted above seems sufficient to justify its separation as a distinct species.

LOCALITY AND STRATIGRAPHICAL HORIZON.

This specimen was collected by Mr. F. L. Berney and presented to the Queensland Museum. It comes from Wyangarie Station, on O'Connell Creek, situated to the south of Richmond, which is on the Townsville-Cloncurry Railway. It occurs in rocks belonging to the Winton Series. Mr. B. Dunstan, the Chief Government Geologist of Queensland, in his recent revision of the Geological Record for Queensland, indicates a series of freshwater beds in Central, and Western Queensland, on the western side of the main divide, which he calls the Winton Series. This series contains carbonaceous beds and coal-seams and overlies the marine Lower Cretaceous Series known as the Rolling Downs Formation. In a similar stratigraphical position in the coastal area of Queensland are the Burrum Coal Measures in the Maryborough district. The Burrum Coal Measures contain workable coal-seams.

Up to the present few fossil plants have been obtained from the Winton Series, but an abundant flora is known in the Burrum Coal Measures. The Burrum flora, in its general aspect, is distinctly different from that of the so-called Trias-Jura System, including the Ipswich and Walloon Coal Measures.

It is not likely that such a specimen as the one described here is an isolated one and its presence leads to the hope that further collecting from the same area may bring forth more examples.

It is of interest to note that no specimens resembling *Nilssonia mucronatum* are present among the flora of the Burrum Coal Measures as at present known.

EXPLANATION OF PLATE XXIV.

Fig. 1.—*Nilssonia mucronatum* (De Vis). Wyangarie Station, Q. ; natural size.

Fig. 2.—*Nilssonia mucronatum* (De Vis). Portion of a frond showing attachment of pinnae to rachis. (x2.)

Fig. 3 a and b.—*Nilssonia mucronatum* (De Vis). Two fragments of pinnae showing venation. (x2.)

² Palaeontographica, Band xix., Taf. xxxiii.